INSTRUCTION MANUAL FOR DISHWASHERS

Mod.

C800E RCD

MULTIPOWER

INTRODUCTION

1) Read carefully all instructions supplied in this manual which contains important information for correct installation, use and maintenance. Keep in a safe place for future reference.

2) After opening all packing, check to ensure if all is in order. If in doubt, do not use and contact a qualified professional to check the appliance.Remove all packing materials (plastic bags, styrofoam packing, nails or staples, etc.) away from the reach of children as they can present danger.

3) Before connecting the appliance to the mains, ensure that your water and electrical supply correspond to the requirements.

4) This appliance must be installed by a qualified technician according to the manufactures instructions.

5) This appliance must only be used in the manner for which it is intended. Any other use is considered improper and therefore dangerous.

6) This appliance should only be used by persons trained to use it.

7) When attending to the dishes after washing, proper hygiene must be carefuly observed.

8) Do not expose appliance to temperatures below 0°C.

9) The protection factor of the machine is IP X4 and should not be washed using direct jets of water at high pressure.

10) After turning off wall switch, only qualified personnel should remove panelling for repairs.

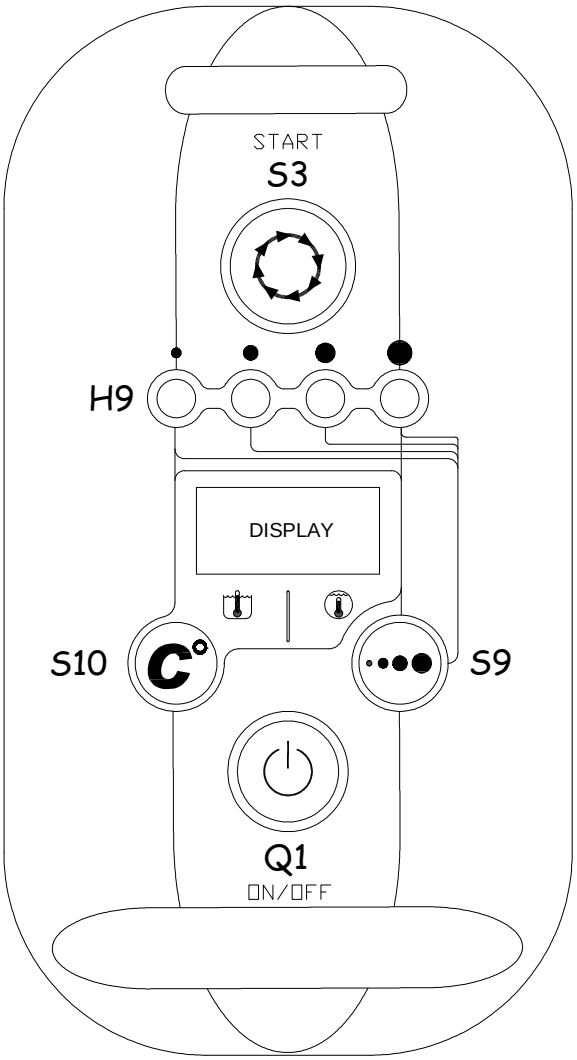
11) This appliance conforms to D.M.13/4/89 according to the CEE directive 87/308, relative to eliminating radio disturbances.

12) Conforms to CEE directive n. 23 of 19/2/73 and to the law n. 791 of 18/10/87, our dishwashers are built according to the best technical rules in force in ITALY and ABROAD and are covered by European certificates.

13) Noise level of the machine, less than 67dB(A)

INSTRUCTIONS FOR USE

THE COMMANDS PANEL



H9 *a* – INDICATOR LAMP SHORT CYCLE

b – INDICATOR LAMP MEDIUM CYCLE

c – INDICATOR LAMP LONG CYCLE

d – INDICATOR LAMP INTENSIVE CYCLE

Q1 ON/OFF – MAIN SWITCH

S3 START – START PUSH BUTTON
* MANUAL/AUTOMATIC SELECTOR

S9 – CYCLE SELECTION PUSH BUTTON
– REGENERATION CYCLE PUSH BUTTON

S10 – TEMPERATURE SELECTION PUSH BUTTON

– TANK TEMPERATURE

– BOILER TEMPERATURE

OPERATION AND USE

HOW TO USE

1 Before using check that:
-it is plugged in
-the water supply is on
-there is water in the pipe
-the pump filter is correctly inserted
-the overflow pipe is connected
-the blades may move freely
-temperatures used are those which are recommended at 55°C for washing and 85°C for rinsing.
-the crockery to be washed is in good condition and not cracked, as the cracks offer more opportunity for the soiling to remain and floral bacteria to grow.

SWITCHING ON

- When the machine is off, the display shows "***O.F.F.***"

2 To turn on the machine press the "**Q1**" switch.

The indicator light of the last cycle selected turns on ("H9 a-b-c-d").

⚠ *The "H9b" indicator light turns on the first time the machine is turned on.*

During the filling of the wash tank the display shows "***F. .2.***".

("**S3**" START button is "**RED**")

The booster hot water is used for the wash tank filling.

When the wash tank is full, the booster and tank heaters are turned on.

When the machine is ready, the display shows the tank temperature and the

("**S3**" START button turns "**GREEN**")

Using detergents which are chlorated and sanitized, they should be placed in the machine using an automatic dosage device as when the detergent is poured directly into the tank the possibility of formulation of dark spots may appear on the surfaces as a result of the clorate

Dishes should now be put into suitable positions in the racks, after the removal of solid waste. Cups and cutlery should be placed vertically in the suitable compartment. Do not overload. The dishes should not be overlapped in such a way as the water cannot reach every surface of the dish.

WASH CYCLE SELECTION

3. Press the "**S9**" button to select the wash cycle according to the dirtiness of the dishes:

- H9a **short cycle:** for glasses and cups;
- H9b **medium cycle:** for normally dirty dishes;
- H9c **long cycle:** for particularly deep or dirty dishes and for utensils;
- H9d **intensive cycle:** it is possible to perform an intensive wash that will remain activated until the "**S3**" button is pressed again or a maximum time of 8 min. is reached; the pause, rinse and drain (if required) phases will follow.

STARTING THE WASH CYCLE

4. **Wait until the wash temperature reaches 55°C and the** ("**S3**" START button turns ("**GREEN**")**.**

Press and hold the "**S3**" button (for about 10 sec.) to set the preferred startup mode of the chosen wash cycle:

- "H9..." indicator light **is on (Continuously)**:

  For Automatic startup by closing the front door.

- "H9..." indicator light **flashes**:

  For Manual startup Which is achieved by pressing the "**S3**" button.

⚠ If the choice of startup of the cycle in *automatic* mode is performed with the door open, it is necessary to open and then close the door to start the cycle.

During the washing cycle the, **"S3"** START button is **BLUE.**

It is important to know that:

- The activation of a cycle is shown by the sequential lighting of the indicator lights of the display and **"S3"** START button is **BLUE**;
- **During the wash or drain phases** the display show's the wash tank temperature;
- **During the pause period** nothing is displayed.
- **During the rinse phase** the display show's the rinse temperature.

⚠ IMPORTANT

N.B.: Machine in conformity with the existing hygienic standards, guaranteeing a final rinse at 82°C. Wash cycle automatically lengthened if final rinse temperature is not reached.
To avoid the machine blocking in this intervention, after 8 minutes the intervention is stopped and the cycle continues.

At the end of the washing operations *turn off the machine* by pressing twice the ⏻ "**Q1**" switch.

INTERRUPTION AND END OF WASH CYCLE

5 * It is possible to momentarily interrupt the wash cycle by opening the door; the operations will resume by closing it .

At the end of the washing operations *turn off the machine* by pressing once or twice the ⏻ "**Q1**" switch:
ONCE: the drain cycle will start automatically after 10 sec. ("***C. .2.***")

TWICE: the machine definitely in "***O.F.F.***" .

* Upon turning on the machine again, the indicator light of the last cycle selected will illuminate and the display will show the alarm code "**A. .1.**" until a new cycle starts.

At the end of the cycle, remove the rack at an incline and shake carefully to remove any remaining water drops or residue.

Leave dishes to dry and take out the rack with clean hands, paying attention to not touch internal parts and borders. Remove dishes and place in a hygienic location.

SELF CLEANING AND DRAIN CYCLE

6 At the end of the wash operations ***turn off the machine*** by pressing the ⏻ "**Q1**" switch.

After having removed the overflow pipe and lowered the hood, press the ◎ "**S3**" button *for 3 sec.*

The self cleaning and drain cycle will start, turning on the drain pump for machines equipped with it.

- The display will show "***C. .1.***" during the entire cycle (2 min. and 30 sec.).

At the end of the autowash cycle, remove the tank filter to clean and replace along with the overflow hose in the correct position. For further information regarding the accessories please look under the section “USEFUL INFORMATION”.

MANUAL DRAIN

7 It is possible to empty the tank at any time of the day.

⚠ **It is possible to perform this cycle only with the machine turned on.**

Press the ⊚ *"**S9**"* button *for 5 sec.* The drain cycle will start.

- The display will show "***C. .2.***" for the entire duration of the cycle (2 min. and 20 sec.).

At the end of the cycle it is recommended to remove the filters in the wash tank for cleaning, replace them in their correct positions after cleaning.

READING THE TEMPERATURE

8. By pressing the ⊚ "**S10**" button it is possible to view in sequence the actual temperatures and the programmed temperatures of the **tank** (**t1**) and of the **rinse booster** (**t2**) for the selected cycle.

t1

The display show:

*"**x.x. .**" : tank temperature*

*"**x.x.P.**"* : *tank temperature set*

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t2

The display show:

*"**. .x.x.**": rinse temperature*

*" **P.x.x.**"* : *rinse temperature set*

⚠ **The operations described above cannot be performed during a cycle.**

DEACTIVATING THE DISHWASHER AT THE END OF THE DAY

9. At the end of service, switch off the electrical supply by the main isolating switch and close the water supply valve.

WARNINGS WHILE WASHING

1) Check that the washing temperature stays at 55°C

2) Do not use bare hands when handling soapy water. If this occurs rinse immediately and thoroughly under fresh running water.

3) While the machine is operating, do not turn any knobs too quickly.

4) Use only chlorified anti-suds detergent specifically for industrial use.

5) **Turn off machine in case of breakdown or malfunction.. For repair, contact only authorized technical assistance outlets using only genuine parts.**

6) Under no circumstances should the settings of the thermostats be altered.

7) When running continuous cycles throughout the day, change the washing tank water 2 or more times.

8) Do not subject washed dishes to any other handling such as rotary brushes, vapors, dish-cloth drying etc.

Mishandling of any of the above may compromise the safety of the appliance.

USEFUL ADVICE

1) **MAINTANANCE: Before beginning any cleaning or maintenance operation, the machine MUST be isolated from the main power supply.**
Frequently check and clean the wash and rinse arms, taking them out from the column to remove any debris or scale build up.
The frequency of this operation is regulated by the quantity of residue or by poor washing results.
For internal and external cleaning of the machine, do not use corrosive products such as sodium hypochlorite (bleach) or hydrochloric acid (muriatic acid), steel wool or steel brushes.
To ensure correct functioning of the machine, in the presence of calcium salts or magnesium in the water you are advised to periodically descale the machine and keep in good order by using qualified technicians who are authorised to perform this service.
To avoid the risk of damage from oxidization or corrosion from chemicals, keep all steel surfaces clean.

2) **FOR BEST RESULTS:** An insufficient wash cycle may occur which is visible when traces of waste remain. Streaking may be caused when the rinse cycle is insufficient, in which case check that the rinse nozzles are clean and that the water source is of suitable pressure.
In case of waste remains check that:
-the wash cycle nozzles are clean.
-the wash cycle temperature is at 55°C.
-the detergent is chlorified, of the correct concentration and specifically for industrial use.
-the suction pump filter is clean
-the dishes are in the correct rack
-the dishes are placed correctly in the rack

3) **PROLONGED DISUSE**
In case of prolonged disuse, a few weeks, it is advisable to run the machine empty a few times with clean water so as to avoid the build up of any odors. If necessary repeat this operation a few times until the the water at the end of the wash is good and clean.
If the period of disuse is longer, it is advisable to oil stainless steel surfaces with vaseline and to remove any water from the boiler and the electric pump. It is always advisable to run the sanitizing and de-encrustation operations both before and after periods of disuse.

4) **SANITIZING**

It is vital to thoroughly clean the machine at least once a week. It is advisable to use specifically a detergent which disinfects, the use of which will substantially increase the following advantages:

-Establishes a secure hygenic state by using active detergents and disinfectants.

-maintains the machine in perfect hygienic conditions even during periods of non-use.

At the end of the operation, it is necessary to run the machine empty,so as to rinse it, for a few minutes.

5) **DISENCRUSTATION**

In the presence of the use of hard water, lime deposits may formulate internally and on the dishes, which for hygienic reasons and for good care of the machine must be removed by disencrustation.

The frequency of such procedure is according to the detergent manufacturers advice, those products which generally contain a phosphoric acid base.

So as not to damage the machine, do not exceed doses and when the operation is complete, rinse thoroughly.

6) **LOADING AND UNLOADING OF THE MACHINE**

For the transportation of the machine from the delivery point to the final installation position, use a fork lift or adequate lifting equipment used by authorised staff. Lift the machine by its frame, taking care that any protruding parts are not damaged (discharges, wiring etc.).

7) **MACHINE DISMANTLING**

At the end of its normal lifetime, the machine has to be taken apart according to the local regulations in force by separating the components as follows:

- metal parts: hood, platforms, frames, filters
- electrical parts: motors, remote control switches, microswitches, wiring
- plastic parts: racks, connections
- rubber parts: tubes, sleeves

INSTRUCTIONS FOR INSTALLATION AND MAINTENANCE

This manual should be used by qualified personnel, authorized to examine and eventually repair the machine.
The Manufacturer takes no responsibility for action taken by non-qualified personnel.

INSTALLATION

During the installation keep the machine leveled in order to ensure proper functioning (angle of inclication is maximum 2 degrees). To prevent damage caused by the release of vapors from the accessories, ensure that any adjacent equipment will not be damaged by these vapors.
After test-running the machine, check that the temperatures used are the recommended ones at 55°C for washing and 85°C for rinsing.

1) **ELECTRICAL CONNECTION**:
The electrical safety of this equipment is only assured if it is connected as follows.
It is necessary to connect the equipment to an effective earthing as specified by the electrical safety regulations in force. Check that this basic requirement is complied with, in case of any doubt ask for a careful check of the installation by a qualified personnel.
In the case the earthing is not efficient there will be a dispersion due to the suppresser.
The machine shall be included in a correctly dimensioned equipotential, whose effectiveness is to be very tight in accordance to the procedures set for in the applicable safety standards. The connection shall be performed through a screw marked by a plate ⏚ near the rear side of the appliance.
The manufacturer declines any responsibility for any damages caused by lack of an effective ground installation. For the electrical power supply have available a wall circuit breaker switch with multiple phase protection according the following table with contact aperture distance, equal to or not exceeding 3mm and a supply cable no less than 2.5mm².

kW	**220/230V~**	**400/415V 3N~**
8.75kW	40A	16A
6.10kW	32A	16A
3.41kW	16A	10A

For other supplies the cable cross section and the circuit breaker switch must be calculated according to voltage and length of cabling. If cabling too long adjust cable size to Amp rating; do not pull on supply cable or install it under tension. If cable needs to be replaced use type H07RN-F.

2) **WATER SUPPLY**

Provide a water tap in an accessible location, size 3/4" gas, and that which is connected first to the filter, then to the discharge tube which are a part of the machine. Pay careful attention to National and Regional requirements.

The pressure used should not be under 2 bar or over 4 bar (200-400 kPa). If the pressure is below this requirement, you are advised to install a pressure increasing pump; if the pressure is over this requirement, use a pressure reducer.
For best results, it is advisable to have the inlet water with a hardness not more than 10°French measure.
For a hardness factor higher than this use an ionised switch or invert the osmosis.

3) **DISCHARGE**

Provide a discharge at ground level with a syphon and connection to the machine consisting of a flexible tube, placed in a way that it inclines towards the final discharge location. Moreover, ensure that the length is not twisted. Ensure that the discharge tube can withstand temperatures up to 70°C.

4) **LIQUID BRIGHTENER DOSAGE**

The dosage from this compartment is regulated by the regulation screw, of which after being screwed down completely, should then be unscrewed, three complete rotations.
To fill the dosage tube, turn the machine on without the overflow in place. Now turn the machine on and off. Repeat this operation a few times at intervals of a few seconds until the brightener reaches the compartment. Now wait until the machine reaches the correct temperature.
Then run a few cycles empty and wash normally: if the washed items show dropspots, it signifies that the brightener level is low; if there is streaking however, it signifies that there is too much brightener or that the water is too hard. The variation is according to the type of brightener used.
Now the machine will automatically draw the necessary amount of liquid for each rinse; when running the wash operations check that the liquid in the drawer does not run short.

5) **DETERGENT DOSAGE**

With the screw on the side of the detergent pump, close completely the product intake, then slowly open the screw until the desired intake quantity has been reached. The correct quantity is indicated by the detergent supplier. Check that the intake of the pipe during the rinse cycle is as preset. (8cm = 1g approximately). Maximum intake or delivery distance: 2 meters.

6) **VIEWING AND SETTING PARAMETERS**

There are three types of programmable parameters:

P machine functions (0/1);

T tank or rinse temperatures (for each single cycle);

L cycle time (for each single cycle).

1. The parameter programming environment can be accessed only with the machine off, by pressing the "S3" button. for 15 sec.

- The display will show "***P.r.o.***":

- The lamp of the selected cycle flashes

- To change the wash cycle press the "**S9**" button

- To set the **t** and **L** parameters, press the "**S10**" button.

2. **Pressing "S3" button, the display shows all parameters and their settings:**

P1-P2-P3-P4-P5-P6-P7-P8-Cr-FHR - t1-t2 - *L1-L2-L3-L4-L5* - ***PRO*** .

3. Use the "**S9**" or "**S10**" buttons to change the state of the parameter.

4. To confirm the setting, press "**S3**" button.

To exit the programming environment just do not press any button for at least 20 sec.

PARAMETERS SETTING

PARAMETER	FUNCTION	STATE
P1	Water fill	**1**
P2	**Normal** / with pre-rinse	**0**
P3	Heating **commutated/**simultaneous	**0**
P4	N°wash pumps **1** / 2	**0**
P5	Booster safety not active / **active**	**1**
P6	Startup safety on the temperature tank **not active**	**0**
P7	**HR** / HRT	**0**
P8	/	**0**
Cr	**/**	**0**
FHR	**Standard short cycle** / short cycle with reduced rinse: (L3: 9sec – L5: 5sec)	**0**
CT	Cycles counter	**1…….**

PARAMETERS	FUNCTIONS	SHORT CYCLE (H9a)		MEDIUM CYCLE (H9b)		LONG CYCLE (H9c)		INTENSIVE CYCLE (H9d)
t1	**TANK TEMPERATURE**	**55℃**		**55℃**		**55℃**		**55℃**
t2	**RINSE TEMPERATURE**	**85℃**		**85℃**		**85℃**		**85℃**
L1	WASH TIME	37 sec.		77sec.		127sec.		**457sec.**
L2	**PAUSE TIME**	0.		0		0		0
L3	**RINSE TIME**	18 sec.		18 sec.		18 sec.		18 sec.
L4	OSMOSIS RINSE TIME **(Optional)**	(15)		(15)		(15)		(15)
L5	**DRAIN TIME**	7 sec.		7 sec.		7 sec.		7 sec.

*6.1 **STANDARD PARAMETER CONFIGURATION***

See page "19" for the standard configuration.

N.B.: Pressing the ©"**S10**" button for 20 sec. (the display shows "***P.S.t.***") when the machine is off automatically configures all the parameters (P-T-L) as shown in the table.

7) **SELF DIAGNOSTICS: ALARMS AND FUNCTIONS ON THE DISPLAY**

"S3" Start button flashes (BLUE/ORANGE: during the wash cycle)

"S3" Start button flashes (ORANGE: with machine in stand-by)

- **OFF.**: MACHINE OFF.

- **A 1**: CYCLE NOT COMPLETED (appears upon turning the machine on after interrupting a cycle using the "Q1". main switch).
- **A 2**: BOILER OVERHEATING (the temperature in the boiler exceeds 105°C – *the active cycle is finished*).
- **A 3**: TEMPERATURE PROBE NOT CONNECTED (the heater of the probe in alarm state is disconnected - *the active cycle is finished*).
- **A 4**: TANK NOT FILLED WITHIN 30 min.(turn off and then turn on the machine).
- **A 5**: BOILER NOT HEATING WITHIN 30 min.

- **H 1**: RINSE WATER TEMPERATURE (at least 15°C below the set value - *the active cycle is finished*).
- **H 2**: NO WATER SUPPLY (no incoming water for at least 2 sec. –OPTIONAL - *the active cycle is finished*).
- **H 3**: TANK TEMPERATURE (at least 10°C below the set value - *the active cycle is finished*).

- **F 1**: DOOR OPENING (opening the door during a cycle).
- **F 2**: INITIAL LOADING PHASE.

- **C 1**: SELF CLEANING AND DRAIN CYCLE (for the entire duration of the cycle).
- **C 2**: DRAIN CYCLE (for the entire duration of the cycle).
- **C 3**: REGENERATION OF THE WATER SOFTENER (for the entire duration of the cycle).

- **P.r.o.**: PARAMETERS PROGRAMMING.
- **P.S.t.**: PRESET LOADED.

In case of multiple simultaneous alarms the display will show the codes on the basis of the following priorities**:**

1. **H1-H2-H3**
2. **A1-A2-A3-A4-A5**
3. **F1-F2**

CONSUMPTION

Model	Tank Capacity (**L**)	Water Consumption per cycle (**L**)	Tank Heater (**W**)	Boiler Heater (**W**)	Pump (**W**)	Total Power (**W**)	Max hourly capacity with water at 55°C	Max water capacity with water at 12°C
C800E	21	3,5	2.000	9000 MAX	750	10750 MAX	36/30/20	MAX 36

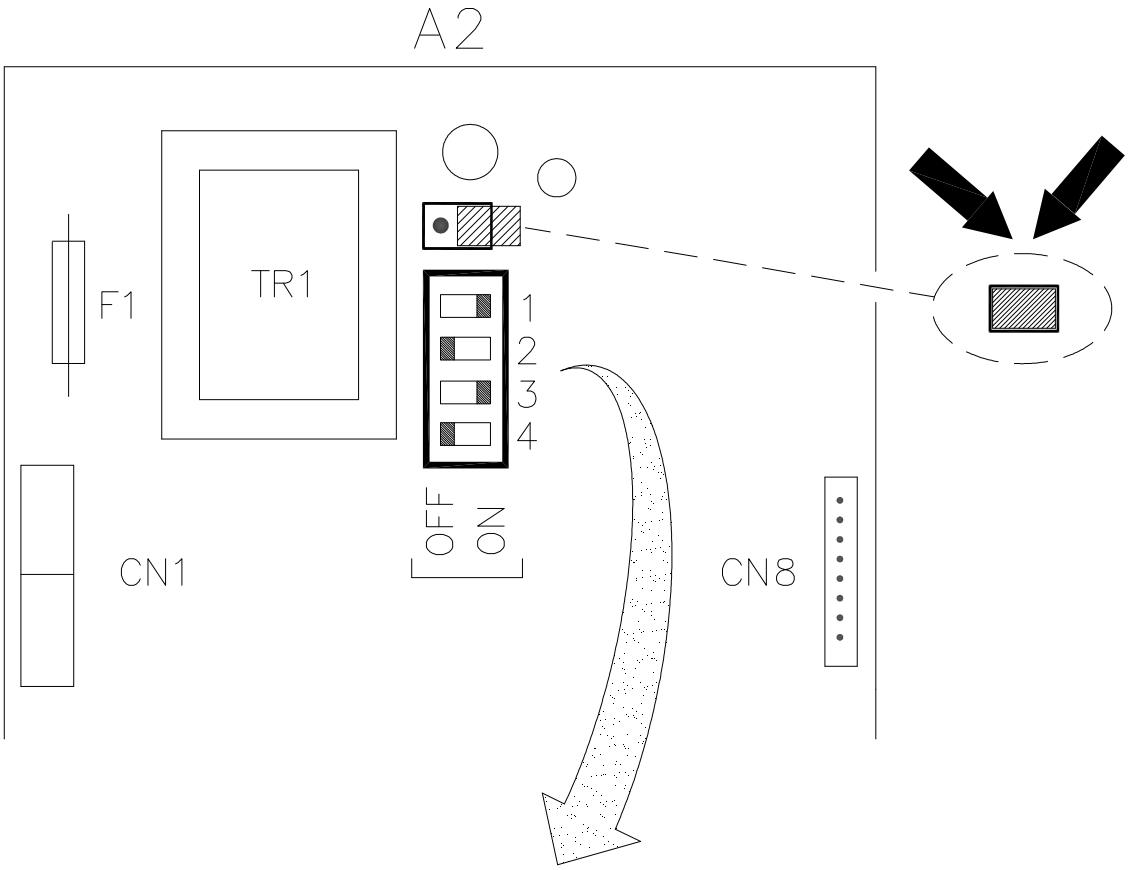
The rack capacity diminishes for water feeders with a lower capacity.

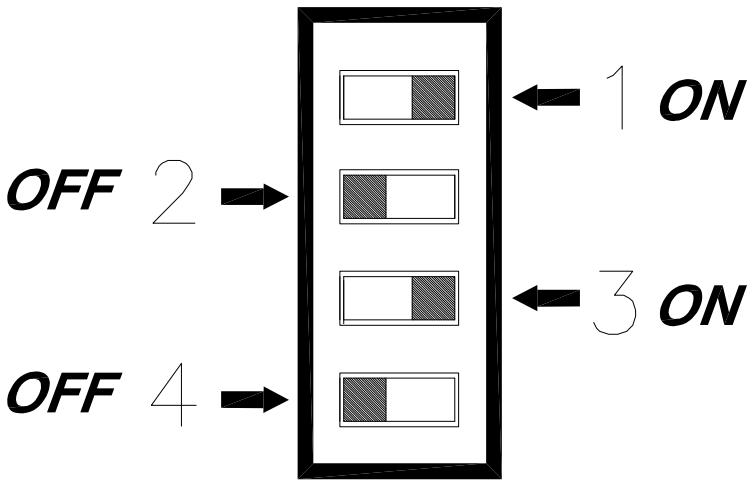
ELECTRICAL INFORMATION

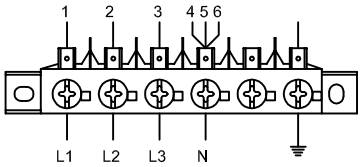
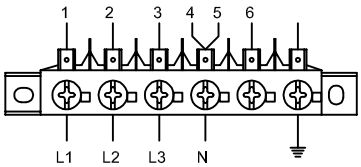
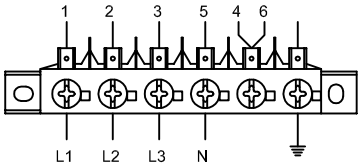
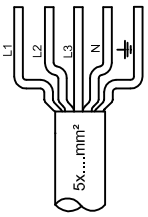
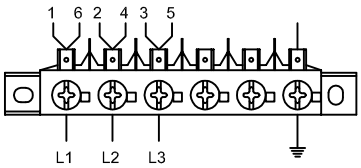
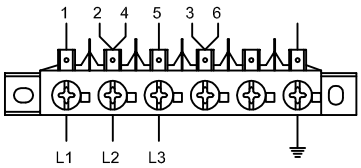
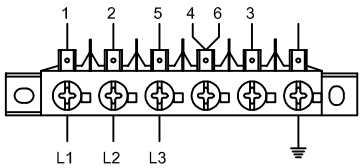
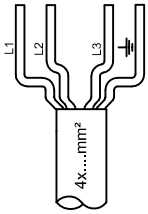
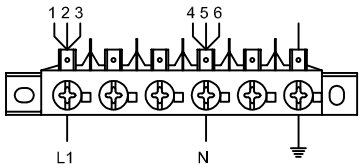
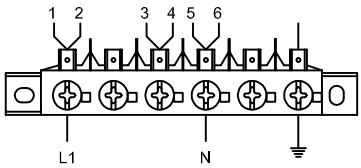
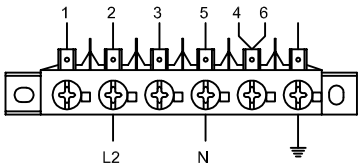
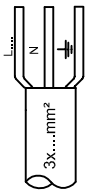
A1	Control console
A2	Printed circuit board
B2	Probe for booster temperature
B3	Probe for tank temperature
C1	Noise filter
C2	Capacitor
C3	Capacitor
E2	Booster heater
E3	Tank heater
FA2	Printed circuit fuse
K1	Main relay
KE2	Booster heater contactor
KE2b	Booster heater safety contactor
M2	Rinse booster pump
M3	Wash pump
M5	Drain pump
MD	Detergent dispenser
S1	Door micro switch
S11	Pressure switch for RCD
S2	Tank pressure switch
SE2b	Booster heater safety thermostat
SE3b	Tank heater safety thermostat
Y11	Water inlet solenoid valve
X1	Terminal block

The Manufacturer takes no responsibility for any printing errors in this manual. The Manufacturer reserves the right to modify products, if necessary, without changing the main characteristics of the product.

STANDARD SETTING





400V/3N	400V/3N/50Hz 9750W main cable 5X2.5mm ² 	400V/3N/50Hz 6750W main cable 5X2.5mm ² 	400V/3N/50Hz 3750W main cable 5x1.5mm ² 	
230V/3	230V/3/50Hz 9750W main cable 4X2.5mm ² 	230V/3/50Hz 6750W main cable 4x2.5mm ² 	230V/3/50Hz 3750W main cable 4X2.5mm ² 	
230V/1	230V/50Hz 9750W main cable 3X4mm ² 	230V/50Hz 6750W main cable 3x2.5mm ² 	230V/50Hz 3750W main cable 3X1.5mm ² 	

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